

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 05-234179
(43)Date of publication of application : 10.09.1993

(51)Int.Cl. G11B 15/02
H04N 5/782

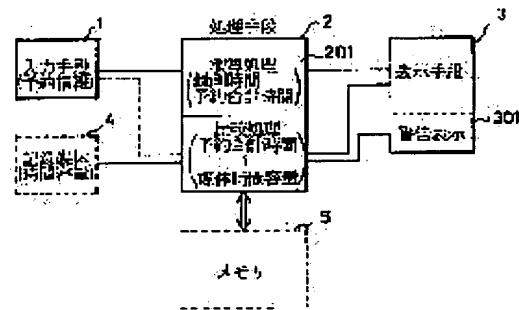
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(54) VIDEO RECORDING TIME RESERVING DEVICE

(57)Abstract:

PURPOSE: To easily and accurately set a tape by integrating and displaying the total time of a video recording time reserved at the time of reserving a video recording time and finding and displaying a tape remaining amount or shortage amount at the time of setting.

CONSTITUTION: When video recording time reserving information is inputted by an input means 1, the video recording time at a standard mode is found at every inputted reserving information in the operation processing function part 201 of a processing means 2 and the video recording time on all reservation is integrated and a video recording time reservation total time is calculated and they are displayed by a display means 3. Further, these reserving information containing time information are stored in a memory 5. Thus, an operator sees the display of reservation total time and reserves while recognizing total reservation amount.



LEGAL STATUS

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's

decision of rejection]

[Date of extinction of right]

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[0006]

[Example]

Fig. 1 is a block diagram schematically showing a video recording time reserving device according to the present invention, wherein numeral 1 denotes input means, 2 denotes processing means, 3 denotes display means having an alarm display function, and 4 denotes a recording medium such as a magnetic tape or the like. When video recording time reserving information is inputted by the input means 1, a video recording time with a normal tape speed, i.e., in a normal mode, is obtained for every inputted reservation information at an operation function section 201 of the processing means 2, and the video recording time is subject to totalization for all reservations to calculate the total time of the video recording time reservation, and the resultant is displayed on the display device 3. It should be noted that the reservation information containing these pieces of time information is accumulated in a memory 5. Accordingly, an operator can perform a reservation as grasping the total reservation amount by seeing the display of the total reservation time.

[0007]

When a recording medium 4 such as a tape or the like is set next, the remaining amount of the tape, i.e., the recordable

time capacity is automatically inputted or inputted by the input means 1, and then, the time capacity and the total reservation time stored in the memory 5 are compared at a comparison processing function section 202 of the processing means 2, so that the remaining amount of the tape or insufficient amount is obtained. These are displayed by the display means 3, and simultaneously, in the case of insufficiency, i.e., in case where the recording is impossible, the instruction is outputted to an alarm display function 301 of the display means 3, so that a predetermined display section, for example, the display of the remaining amount of the tape or insufficient amount is flickered or the like to perform an alarm display.

[0008]

The example will be explained in which the concept of the present invention described above is realized by CPU processing means in a video recording time reserving device of a VTR device.

Fig. 2 is a conceptual block diagram showing a hardware configuration of a section that is provided in the VTR device and executes a signal processing necessary for various operations or controls, wherein a video recording time reservation is performed as one of the operations. In the figure, numeral 11 denotes an input section, 12 denotes a display section, 13 denotes a bus buffer, 14 denotes a CPU, 15 denotes a memory, 16 denotes a control section for realizing various operations and controls, 17 denotes a VTR device, and 18 denotes a television receiver,

wherein the input section 11 is operated to input data or instruction for the video recording time reservation, these are received via the bus buffer 13, the CPU 14 executes necessary processing with the memory 15, and the result is displayed by utilizing the display section 12 or the screen of the television receiver 17 via the bus buffer 13. The control section 16 realizes the operation and control required for the video recording under the instruction from the CPU on the basis of the set reservation data. It should be noted that a reservation setting device having the components same as numerals 11 to 15 may be provided, independent of the VTR device, and the input is made directly to the VTR device or made to the VTR device via remote control means.

[0009]

Fig. 3 is a flowchart showing a procedure of the video recording time reservation. After the start of the operation for the reservation, the input of the content of the reservation is carried out (step 1), and when the input is performed, the total reservation time is calculated and displayed (step 2). Subsequently, it is determined whether the reservation is completed or not (step 3), and if the reservation is continued, the aforesaid steps are repeated, but when the reservation is completed, a tape is loaded (step 4). When the tape is loaded, the recordable time capacity of the tape, i.e., the remaining amount of the tape, upon the setting is automatically or manually

inputted. Then, the total reservation time and the remaining amount of the tape are compared to check the remaining amount of the tape (step 5), and if the tape can record, the operation for the reservation is ended, but if the tape cannot record, an alarm display and the display of an insufficient amount of tape are performed (step 6).

[0010]

Various display manners of the display section 12 effective for the reservation of the video recording time are considered due to the configuration of the display section 12, one example of which is a barcode display shown in Fig. 4. For example, a bar-like display image or bar-like display means 20 that can display the capacity for the video recording time of more than 180 minutes is used, wherein each of the recording times 21, 22, and 23 for every reserved program is displayed by a barcode as colored, and they are joined to each other to thereby display the total reservation time with a barcode. In this case, the length of each bar, i.e., the video recording time can be read by a pointer, and further, the number that shows the video recording time can be displayed in each barcode. Here, if the tape having the capacity for the video recording time of more than 180 minutes is set, for example, the reservation is fallen in the remaining time of the tape as shown in (A), so that it is apparent that all programs can be recorded. If the tape of 160 minutes is set, the barcode portion of the program 23 that

cannot be recorded is flickered (24) to perform an alarm display indicating the video recording is impossible.

[0011]

Fig. 5 shows a case of a circle chart as another display example, wherein the reserved programs 21, 22 and 23 are displayed with a sector, like the aforesaid barcode display, and the comparison to the capacity for the video recording time of the set tape is made so as to carry out the display of the remaining amount or the alarm display 24 when the capacity is insufficient.

[0012]

Fig. 6 shows one example of a reservation screen in the case of the display utilizing the screen of the television receiver as still another example. The reserved contents such as a recording mode, broadcast time, broadcast channel, program time, recording time, and the like are displayed in order of date with the program number given, and when the reservation setting is completed, the total time of the program time and the video recording time is displayed. Thereafter, when the tape is set, the remaining amount of the tape (normal mode) is displayed, and for the reservation by which the recording is possible due to the remaining amount of the tape, an alarm is issued by, for example, blanking its program number (C), blanking the display of the remaining amount of the tape in case where the recording is impossible, or by flickering (D) the display of the insufficient amount of the tape that is further provided.

[0013]

[Effect of the Invention]

According to the video recording time reserving device of the present invention, the total timer recording time, i.e., a total reservation time of a video recording time, can always be grasped by a look of its display, so that a tape having suited capacity for the video recording time can easily and correctly be set, and an alarm display is performed in case where a tape having insufficient capacity is set, so that misrecording or lack of program can be prevented.

Fig. 1

- ① Input means (reservation information)
- ② Recording medium (time capacity)
- ③ Processing means
- ④ Operation (total reservation time of video recording time)
- ⑤ Comparison process (total reservation time ~ time capacity of medium)
- ⑥ Memory
- ⑦ Display means
- ⑧ Alarm display

Fig. 5

- ⑨ 160 minutes

Fig. 2

- ⑩ Control section
- ⑪ Bus buffer
- ⑫ Display section
- ⑬ Input section

Fig. 3

- ① Start
- ② Is reservation inputted?
- ③ Displaying total time
- ④ Is reservation completed?
- ⑤ Loading tape
- ⑥ Tape remaining amount > Total time?
- ⑦ Alarm display (Display of insufficient amount)
- ⑧ End